## AMENDMENT TO THE CLAIMS

1-17. (Cancelled)

18. (New) A method of decoding a signal modulated according to a multi-level coding technique, comprising at least two coding levels each having a distinct robustness to noise,

said signal comprising a plurality of symbols ($S_r$) each comprising at least one bit, assigned to one of said coding levels,

said method comprising:
- performing at least two successive decoding iterations with a decoder, each iteration comprising successive steps of decoding each of said at least one bit, at least one of the steps of decoding taking into account the result of at least one possible preceding step of decoding,

- determining the robustness to noise of said coding levels, the robustness to noise of a coding level being inversely proportional to the error rate of said coding level,

- determining a decoding order according to the robustness to noise of said coding levels,

and wherein, during said decoding iterations, said bits ($\tilde{b}_3^i$, $\tilde{b}_2^i$, $\tilde{b}_1^i$) are decoded according to said decoding order, said at least one bit assigned to one of said coding levels having a greatest robustness to noise, referred to as a most robust level, being decoded first.

19. (New) The method of decoding according to claim 18, wherein said decoding order corresponds to the decreasing order of the robustness of the coding levels to which said at least one bit is assigned.

20. (New) The method of decoding according to claim 18, wherein each of said successive steps of decoding takes into account the result of said preceding step or steps of decoding so as to improve the result of said steps for the decoding of said bits assigned to the less robust levels.

21. (New) The method of decoding according to claim 18, wherein said bits assigned to said most robust level are the most significant bits of said corresponding symbol.

22. (New) The method of decoding according to claim 18, wherein within one of said iterations of decoding, each of said successive steps of decoding of said at least one bit is preceded by a corresponding demodulation step.

23. (New) The method of decoding according to claim 18, wherein a step of decoding the bits of a given level takes into account, during the $n^{th}$ decoding iteration, where $n \geq 2$, the result of at least certain of said steps of decoding of said at least one bit assigned to the coding levels less robust than said given level, and implemented during at least one of said preceding iterations.

24. (New) The method of decoding according to claim 18, wherein said method comprises two successive decoding iterations.

25. (New) The method of decoding according to claim 23, wherein at the end of at least certain of said iterations, the method implements a step of estimating a sent symbol $S_e$, and a step of calculating an extrinsic information taking into account said estimated sent symbol, said extrinsic information making it possible to improve the result of said steps of decoding of said following iteration or iterations.

26. (New) The method of decoding according to claim 25, wherein said extrinsic information has the form $\alpha(S_r - S_e)$, where $\alpha \in [0, 1]$, $S_r$ is said received symbol and $S_e$ is said estimated sent

symbol.

27. (New) The method of decoding according to claim 26, wherein $\alpha$ is substantially equal to 0.25.

28. (New) The method of decoding according to claim 26, wherein the method further comprises a step of optimizing the value of $\alpha$ according to a signal-to-noise ratio.

29. (New) The method of decoding according to claim 18, wherein the method further comprises a step of determining a signal-to-noise ratio from at least one sent reference information item, referred to as a pilot, whereof the value is known a priori in reception.

30. (New) The method of decoding according to claim 23, wherein the method further comprises, for at least certain of said coding levels, an additional step of de-interleaving implemented between said steps of demodulating and decoding of said at least one bit.

31. (New) A method of receiving a signal modulated according to a multi-level coding technique, comprising at least two coding levels, each having a distinct robustness to noise, said method comprising the steps according to claim 18.

32. (New) A device for receiving a signal modulated according to a multi-level coding technique, comprising at least two coding levels each having a distinct robustness to noise,

said signal comprising a plurality of symbols each comprising at least one bit, assigned to one of said coding levels,

said device comprising decoding means for implementing at least two successive decoding iterations each comprising successive steps of decoding each of said bits ($\tilde{b}_3^i$, $\tilde{b}_2^i$, $\tilde{b}_1^i$), at least

one of said steps of decoding taking into account the result of at least one possible preceding step of decoding

wherein said device comprises:

- means for determining the robustness to noise of said coding levels, the robustness to noise of a coding level being inversely proportional to the error rate of said coding level,

- means for determining a decoding order according to the robustness to noise of said coding levels,

and wherein, during said decoding iterations, said decoding means decode said bits according to said decoding order taking into account the robustness of said levels, the bit or bits assigned to the coding level having a greatest robustness to noise, referred to as a most robust level, being decoded first

33. (New) A system for the coding/decoding of a signal comprising a plurality of symbols each comprising at least one bit,

wherein the system comprises at least one coding device enabling the modulation of said signal according to a multi-level coding technique, comprising at least two coding levels each having a distinct robustness to noise, each of said bits being assigned to one of said coding levels,

and at least one decoding device comprising:

decoding means for implementing at least two successive decoding iterations each comprising successive steps of decoding each of said at least one bit, at least one of steps of decoding taking into account the result of at least one , possible preceding step of decoding,

wherein said decoding device also comprises:

means for determining the robustness to noise of said coding levels, the robustness to noise of a coding level being inversely proportional to the error rate of said coding level,

means for determining a decoding order according to the robustness to noise of said coding levels,

and wherein, during said decoding iterations, said decoding means decoding said bits according to said decoding order taking into account the robustness of said levels, the bit or bits assigned to the coding level having a greatest robustness to noise, referred to as a most robust level, being decoded first.

34. (New) A method of receiving a signal modulated according to a multi-level coding technique comprising at least two coding levels each having a distinct robustness to noise, said signal comprising a plurality of symbols ($S_r$) each comprising at least one bit, assigned to one of said coding levels, said method comprising:

- performing at least two successive decoding iterations with a decoder, each iteration comprising successive steps of decoding each of said at least one bit, at least one of said steps of decoding taking into account the result of at least one possible preceding step of decoding,

- determining the robustness to noise of said coding levels, the robustness to noise of a coding level being inversely proportional to the error rate of said coding level,

- determining a decoding order according to the robustness to noise of said coding levels,

wherein the steps of performing at least two decoding iterations, determining the robustness, and determining a decoding order are performed within at least one of the following fields:

- digital radio transmissions, in particular of the DRM (Digital Radio Mondiale) type;
- error correction codes;
- digital signal processing;
- digital communications;
- recording/ restoration of a digital signal,

wherein, during said decoding iterations, said bits are decoded according to said decoding order taking into account the robustness of said levels, the bit or bits assigned to the coding level having a greatest robustness to noise, referred to as a most robust level, being decoded first.

35. (New) The method of decoding according to Claim 18, wherein said robustness of the coding levels is determined by decoding each decoding level independently.

36. (New) The method of decoding according to Claim 18, wherein said robustness of the coding levels is determined by decoding each decoding level independently in order to determine the most robust coding level, then decoding the other coding levels taking into account the most robust coding level.

37. (New) The device according to Claim 32, wherein said means for determining the robustness to noise decode each decoding level independently.

38. (New) The device according to Claim 32, wherein said means for determining the robustness to noise decode each decoding level independently in order to determine the most robust coding level, then decode the other coding levels taking into account the most robust coding level.

39. (New) The device according to claim 32, wherein said decoding order corresponds to the decreasing order of the robustness of the coding levels to which said at least one bit is assigned.

40. (New) The device according to claim 32, wherein said means for implementing at least two successive decoding iterations takes into account the result of a preceding step or steps of decoding so as to improve the result of said steps for the decoding of said bits assigned to the less robust levels.

41. (New) The device according to claim 32, wherein said bits assigned to said most robust level are the most significant bits of said corresponding symbol.

42. (New) The device according to claim 32, said device comprising demodulation means activated before each of said successive steps of decoding within one of said iterations of decoding.

43. (New) The device according to claim 32, wherein said decoding means decode the bits of a given level taking into account, during the $n^{th}$ decoding iteration, where $n \geq 2$, the result of at least certain of said steps of decoding of said at least one bit assigned to the coding levels less robust than said given level, and implemented during at least one of said preceding iterations.

44. (New) The device according to claim 32, wherein said device comprises decoding means for implementing two successive decoding iterations.

45. (New) The device according to claim 43, wherein at the end of at least certain of said iterations, said decoding means implements a step of estimating a sent symbol $S_e$, and a step of calculating an extrinsic information taking into account said estimated sent symbol, said extrinsic information making it possible to improve the result of said steps of decoding of said following

iteration or iterations.

46. (New) The device according to claim 45, wherein said extrinsic information has the form $\alpha(S_r-S_e)$, where $\alpha \in [0, 1]$, $S_r$ is said received symbol and $S_e$ is said estimated sent symbol.

47. (New) The device according to claim 46, wherein $\alpha$ is substantially equal to 0.25.

48. (New) The device according to claim 46, wherein the device further comprises means for optimizing the value of $\alpha$ according to a signal-to-noise ratio.

49. (New) The device according to claim 32, wherein the device further comprises means for determining a signal-to-noise ratio from at least one sent reference information item, referred to as a pilot, whereof the value is known a priori in reception.

50. (New) The device according to claim 32, wherein the device further comprises, for at least certain of said coding levels, means for implementing an additional step of de-interleaving implemented between said steps of demodulating and decoding of said at least one bit.